

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A method comprising:

- 2 a) accepting search query information including a
- 3 word;
- 4 b) determining one or more words related to the word
- 5 included in the accepted search query, wherein at
- 6 least one of the one or more words determined has a
- 7 different root than the word;
- 8 c) automatically generating an ad request including
- 9 i) the word included in the accepted search
- 10 query, and
- 11 ii) the one or more words determined to be
- 12 related to the word included in the accepted
- 13 search query; and
- 14 d) retrieving ads using the ad request; and
- 15 e) transmitting at least some of the retrieved ads
- 16 towards a client device for rendering to a user.

1 Claim 2 (original): The method of claim 1 wherein the act
2 of determining one or more words related to the words
3 included in the accepted search query includes using
4 word-related word mapping information, and
5 wherein the word-related word mapping information is
6 based on query session word co-occurrence information.

1 Claim 3 (original): The method of claim 2 wherein the
2 word-related word mapping information includes weights.

1 Claim 4 (original): The method of claim 3 wherein the each
2 of the weights are determined using a probability that a

3 word and a related word will co-occur in a given query
4 session.

1 Claim 5 (currently amended): The method of claim 1 wherein
2 each ad includes keyword targeting criteria, and wherein
3 the act of retrieving ads compares elements of the ad item
4 request with keyword targeting criteria with at least some
5 of the ads.

1 Claim 6 (original): The method of claim 1 wherein the
2 words include one or more of single words, word segments,
3 phrases, and n-grams.

1 Claim 7 (currently amended): A method comprising:
2 a) accepting search query information including a
3 word;
4 b) determining one or more words related to the word
5 included in the accepted search query;
6 c) generating an item request including
7 i) the word included in the accepted search
8 query, and
9 ii) the one or more words determined to be
10 related to the word included in the accepted
11 search query;
12 d) retrieving items using the item request;
13 e) determining a score for each of the retrieved
14 items; and
15 f) adjusting the scores of any items retrieved on the
16 basis of the one or more words determined to be
17 related to the word included in the accepted search
18 query relative to any items retrieved on the basis of

19 the word included in the accepted search query to
20 generate adjusted scores; and
21 g) serving at least some of the items to a client
22 device for rendering to a user, wherein the serving is
23 controlled, at least in part, using the adjusted
24 scores.

1 Claim 8 (original): The method of claim 7 wherein the act
2 of adjusting the scores includes decreasing the scores.

1 Claim 9 (original): The method of claim 7 wherein the act
2 of adjusting the scores includes multiplying each of the
3 scores by a multiplier that is less than one.

1 Claim 10 (currently amended): The method of claim 9
2 further comprising:
3 gh) updating the multiplier using performance
4 information.

1 Claim 11 (original): The method of claim 10 wherein the
2 items are ads.

1 Claim 12 (original): The method of claim 11 wherein the
2 performance information includes ad selection information.

1 Claim 13 (original): The method of claim 11 wherein the
2 performance information includes ad conversion information.

1 Claim 14 (original): The method of claim 10 wherein the
2 act of updating the multiplier is performed using a
3 function that causes the updated multiplier to converge to

4 observed user behavior relevant to performance divided by
5 predicted user behavior relevant to performance.

1 Claim 15 (original): The method of claim 10 wherein the
2 act of updating the multiplier is performed using the
3 formula:

$$4 \quad \text{updated_multiplier} = \frac{N \bullet \text{initial_multiplier} + \text{observed_user_behavior}}{N + \text{naively_predicted_user_behavior}}$$

5 wherein N is a number.

1 Claim 16 (original): The method of claim 15 wherein the
2 user behavior is selection.

1 Claim 17 (original): The method of claim 15 wherein the
2 user behavior is conversion.

1 Claim 18 (original): The method of claim 7 wherein the
2 retrieved items are advertisements and wherein the act of
3 determining a score for each of the retrieved items uses at
4 least one of ad performance information and ad price
5 information.

1 Claim 19 (currently amended): A method comprising:
2 a) accepting search query information including a
3 word;
4 b) determining one or more words related to the word
5 included in the accepted search query;
6 c) generating an item request including
7 i) the word included in the accepted search
8 query, and

9 ii) the one or more words determined to be
10 related to the word included in the accepted
11 search query;
12 d) retrieving items using the item request;
13 e) determining a score for each of the retrieved
14 items; and
15 f) adjusting the scores of any items retrieved solely
16 on the basis of the one or more words determined to be
17 related to the word included in the accepted search
18 query relative to any items retrieved on the basis of
19 the word included in the accepted search query to
20 generate adjusted scores; and
21 g) serving at least some of the items to a client
22 device for rendering to a user, wherein the serving is
23 controlled, at least in part, using the adjusted
24 scores.

1 Claim 20 (original): The method of claim 19 wherein the
2 act of adjusting the scores includes decreasing the scores.

1 Claim 21 (original): The method of claim 19 wherein the
2 act of adjusting the scores includes multiplying each of
3 the scores by a multiplier that is less than one.

1 Claim 22 (currently amended): The method of claim 21
2 further comprising:

3 gh) updating the multiplier using performance
4 information.

1 Claim 23 (original): The method of claim 22 wherein the
2 items are ads.

1 Claim 24(original): The method of claim 23 wherein the
2 performance information includes ad selection information.

1 Claim 25(original): The method of claim 23 wherein the
2 performance information includes ad conversion information.

1 Claim 26 (original): The method of claim 22 wherein the
2 act of updating the multiplier is performed using a
3 function that causes the updated multiplier to converge to
4 observed user behavior relevant to performance divided by
5 predicted user behavior relevant to performance.

1 Claim 27 (original): The method of claim 22 wherein the
2 act of updating the multiplier is performed using the
3 formula:

4
$$updated_multiplier = \frac{N \bullet initial\ multiplier + observed_user_behavior}{N + predicted_user_behavior}$$

5 wherein N is a number.

1 Claim 28 (original): The method of claim 27 wherein the
2 user behavior is selection.

1 Claim 29 (original): The method of claim 27 wherein the
2 user behavior is conversion.

1 Claim 30(original): The method of claim 19 wherein the
2 retrieved items are advertisements and wherein the act of
3 determining a score for each of the retrieved items uses at
4 least one of ad performance information and ad price
5 information.

1 Claim 31 (currently amended): A method comprising:

2 a) accepting search query information including a
3 word;
4 b) determining one or more words related to the word
5 included in the accepted search query;
6 c) automatically generating an item request including
7 i) the word included in the accepted search
8 query, and
9 ii) the one or more words determined to be
10 related to the word included in the accepted
11 search query;
12 d) retrieving items using the item request; and
13 e) transmitting at least some of the retrieved items
14 towards a client device for rendering to a user,
15 wherein the act of determining one or more words
16 related to words included in the accepted search query
17 includes using query session word co-occurrence
18 information.

1 Claim 32 (currently amended): A method comprising:
2 a) accepting search query information including a
3 word;
4 b) determining one or more words related to the word
5 included in the accepted search query;
6 c) generating an item request including
7 i) the word included in the accepted search
8 query, and
9 ii) the one or more words determined to be
10 related to the word included in the accepted
11 search query;
12 d) retrieving items using the item request; and
13 e) determining a score for each of the retrieved
14 items, wherein a score component is adjusted for any

15 items retrieved on the basis of the one or more words
16 determined to be related to the word included in the
17 accepted search query relative to any items retrieved
18 on the basis of the word included in the accepted
19 search query; and
20 f) transmitting at least some of the retrieved items
21 towards a client device for rendering to a user.

1 Claim 33 (original): The method of claim 32 wherein the
2 act of adjusting the score component includes decreasing
3 the score component.

1 Claim 34 (original): The method of claim 32 wherein the
2 act of adjusting the score component includes multiplying
3 the score component by a multiplier that is less than one.

1 Claim 35 (currently amended): The method of claim 34
2 further comprising:
3 fg) updating the multiplier using performance
4 information.

1 Claim 36 (original): The method of claim 35 wherein the
2 items are ads.

1 Claim 37 (original): The method of claim 36 wherein the
2 performance information includes ad selection information.

1 Claim 38 (original): The method of claim 36 wherein the
2 performance information includes ad conversion information.

1 Claim 39 (original): The method of claim 35 wherein the
2 act of updating the multiplier is performed using a

3 function that causes the updated multiplier to converge to
4 observed user behavior relevant to performance divided by
5 predicted user behavior relevant to performance.

1 Claim 40 (original): The method of claim 35 wherein the
2 act of updating the multiplier is performed using the
3 formula:

$$4 \quad \text{updated_multiplier} = \frac{N \bullet \text{initial_multiplier} + \text{observed_user_behavior}}{N + \text{naively_predicted_user_behavior}}$$

5 wherein N is a number.

1 Claim 41(original): The method of claim 40 wherein the
2 user behavior is selection.

1 Claim 42 (original): The method of claim 40 wherein the
2 user behavior is conversion.

1 Claim 43 (original): The method of claim 32 wherein the
2 retrieved items are advertisements and wherein the score
3 component is at least one of ad performance information and
4 ad price information.

Claims 44-46 (canceled)

1 Claim 47 (currently amended): Apparatus comprising:
2 a) an input for accepting search query information
3 including a word;
4 b) means for determining one or more words related to
5 the word included in the accepted search query,
6 wherein at least one of the one or more words
7 determined has a different root than the word;

8 c) means for automatically generating an ad request
9 including
10 i) the word included in the accepted search
11 query, and
12 ii) the one or more words determined to be
13 related to the word included in the accepted
14 search query; and
15 d) means for retrieving ads using the ad request; and
16 e) means for transmitting at least some of the
17 retrieved ads towards a client device for rendering to
18 a user.

1 Claim 48 (original): The apparatus of claim 47 wherein the
2 means for determining one or more words related to the
3 words included in the accepted search query use
4 word-related word mapping information, and
5 wherein the word-related word mapping information is
6 based on query session word co-occurrence information.

1 Claim 49 (original): The apparatus of claim 48 wherein the
2 word-related word mapping information includes weights.

1 Claim 50 (original): The apparatus of claim 49 wherein the
2 each of the weights are determined using a probability that
3 a word and a related word will co-occur in a given query
4 session.

1 Claim 51 (currently amended): The apparatus of claim 47
2 wherein each ad includes keyword targeting criteria, and
3 wherein the means for retrieving ads include means for
4 comparing elements of the ad item request with keyword
5 targeting criteria with at least some of the ads.

1 Claim 52 (original): The apparatus of claim 47 wherein the
2 words include one or more of single words, word segments,
3 phrases, and n-grams.

1 Claim 53 (currently amended): Apparatus comprising:

- 2 a) an input for accepting search query information
- 3 including a word;
- 4 b) means for determining one or more words related to
- 5 the word included in the accepted search query;
- 6 c) means for generating an item request including
 - 7 i) the word included in the accepted search
 - 8 query, and
 - 9 ii) the one or more words determined to be
 - 10 related to the word included in the accepted
 - 11 search query;
- 12 d) means for retrieving items using the item request;
- 13 e) means for determining a score for each of the
- 14 retrieved items; ~~and~~
- 15 f) means for adjusting the scores of any items
- 16 retrieved on the basis of the one or more words
- 17 determined to be related to the word included in the
- 18 accepted search query relative to any items retrieved
- 19 on the basis of the word included in the accepted
- 20 search query to generate adjusted scores; and
- 21 g) means for serving at least some of the items to a
- 22 client device for rendering to a user, wherein the
- 23 serving is controlled, at least in part, using the
- 24 adjusted scores.

1 Claim 54 (currently amended): The apparatus of claim 53
2 wherein the means for adjusting use a multiplier, the
3 apparatus further comprising:
4 gh) means for updating the multiplier using
5 performance information.

1 Claim 55 (original): The apparatus of claim 54 wherein the
2 items are ads.

1 Claim 56 (original): The apparatus of claim 55 wherein the
2 performance information includes ad selection information.

1 Claim 57 (original): The apparatus of claim 55 wherein the
2 performance information includes ad conversion information.

1 Claim 58 (original): The apparatus of claim 54 wherein the
2 means for updating the multiplier use a function that
3 causes the updated multiplier to converge to observed user
4 behavior relevant to performance divided by predicted user
5 behavior relevant to performance.

1 Claim 59 (original): The apparatus of claim 54 wherein the
2 means for updating the multiplier use the formula:

3
$$\text{updated_multiplier} = \frac{N \bullet \text{initial_multiplier} + \text{observed_user_behavior}}{N + \text{naively_predicted_user_behavior}}$$

4 wherein N is a number.

1 Claim 60 (original): The apparatus of claim 59 wherein the
2 user behavior is selection.

1 Claim 61 (original): The apparatus of claim 59 wherein the
2 user behavior is conversion.

1 Claim 62 (original): The apparatus of claim 53 wherein the
2 retrieved items are advertisements and wherein the means
3 for determining a score for each of the retrieved items use
4 at least one of ad performance information and ad price
5 information.

1 Claim 63 (currently amended): Apparatus comprising:
2 a) an input for accepting search query information
3 including a word;
4 b) means for determining one or more words related to
5 the word included in the accepted search query;
6 c) means for generating an item request including
7 i) the word included in the accepted search
8 query, and
9 ii) the one or more words determined to be
10 related to the word included in the accepted
11 search query;
12 d) means for retrieving items using the item request;
13 e) means for determining a score for each of the
14 retrieved items; ~~and~~
15 f) means for adjusting the scores of any items
16 retrieved solely on the basis of the one or more words
17 determined to be related to the word included in the
18 accepted search query relative to any items retrieved
19 on the basis of the word included in the accepted
20 search query to generate adjusted scores; and
21 g) means for serving at least some of the items to a
22 client device for rendering to a user, wherein the
23 serving is controlled, at least in part, using the
24 adjusted scores.

1 Claim 64 (original): The apparatus of claim 63 wherein the
2 means for adjusting uses a multiplier, the apparatus
3 further comprising:

4 g) means for updating the multiplier using
5 performance information.

1 Claim 65 (original): The apparatus of claim 64 wherein the
2 items are ads.

1 Claim 66 (original): The apparatus of claim 65 wherein the
2 performance information includes ad selection information.

1 Claim 67 (original): The apparatus of claim 65 wherein the
2 performance information includes ad conversion information.

1 Claim 68 (original): The apparatus of claim 64 wherein the
2 means for updating the multiplier use a function that
3 causes the updated multiplier to converge to observed user
4 behavior relevant to performance divided by predicted user
5 behavior relevant to performance.

1 Claim 69 (original): The apparatus of claim 64 wherein the
2 means for updating the multiplier use the formula:

3
$$updated_multiplier = \frac{N \bullet initial_multiplier + observed_user_behavior}{N + predicted_user_behavior}$$

4 wherein N is a number.

1 Claim 70 (original): The apparatus of claim 69 wherein the
2 user behavior is selection.

1 Claim 71 (original): The apparatus of claim 69 wherein the
2 user behavior is conversion.

1 Claim 72 (original): The apparatus of claim 63 wherein the
2 retrieved items are advertisements and wherein the means
3 for determining a score for each of the retrieved items
4 uses at least one of ad performance information and ad
5 price information.

1 Claim 73 (currently amended): Apparatus comprising:
2 a) an input for accepting search query information
3 including a word;
4 b) means for determining one or more words related to
5 the word included in the accepted search query;
6 c) means for automatically generating an item request
7 including
8 i) the word included in the accepted search
9 query, and
10 ii) the one or more words determined to be
11 related to the word included in the accepted
12 search query; and
13 d) means for retrieving items using the item request;
14 and
15 e) means for transmitting at least some of the
16 retrieved items towards a client device for rendering
17 to a user,
18 wherein the means for determining one or more words
19 related to words included in the accepted search query use
20 query session word co-occurrence information.

1 Claim 74 (currently amended): Apparatus comprising:
2 a) an input for accepting search query information
3 including a word;

4 b) means for determining one or more words related to
5 the word included in the accepted search query;
6 c) means for generating an item request including
7 i) the word included in the accepted search
8 query, and
9 ii) the one or more words determined to be
10 related to the word included in the accepted
11 search query;
12 d) means for retrieving items using the item request;
13 ~~and~~
14 e) means for determining a score for each of the
15 retrieved items, wherein a score component is adjusted
16 for any items retrieved on the basis of the one or
17 more words determined to be related to the word
18 included in the accepted search query relative to any
19 items retrieved on the basis of the word included in
20 the accepted search query; and
21 f) means for transmitting at least some of the
22 retrieved items towards a client device for rendering
23 to a user.

1 Claim 75 (currently amended): The apparatus of claim 74
2 wherein the score component is adjusted using a multiplier,
3 the apparatus further comprising:
4 ~~f~~g) means for updating the multiplier using
5 performance information.

1 Claim 76 (original): The apparatus of claim 75 wherein the
2 items are ads.

1 Claim 77 (original): The apparatus of claim 76 wherein the
2 performance information includes ad selection information.

1 Claim 78 (original): The apparatus of claim 76 wherein the
2 performance information includes ad conversion information.

1 Claim 79 (original): The apparatus of claim 75 wherein the
2 means for updating the multiplier use a function that
3 causes the updated multiplier to converge to observed user
4 behavior relevant to performance divided by predicted user
5 behavior relevant to performance.

1 Claim 80 (original): The apparatus of claim 75 wherein the
2 means for updating the multiplier use the formula:

3
$$\text{updated_multiplier} = \frac{N \bullet \text{initial multiplier} + \text{observed_user_behavior}}{N + \text{naively_predicted_user_behavior}}$$

4 wherein N is a number.

1 Claim 81 (original): The apparatus of claim 80 wherein the
2 user behavior is selection.

1 Claim 82 (original): The apparatus of claim 80 wherein the
2 user behavior is conversion.

1 Claim 83 (original): The apparatus of claim 74 wherein the
2 retrieved items are advertisements and wherein the score
3 component is at least one of ad performance information and
4 ad price information.

1 Claim 84 (new): The method of claim 1 wherein the act of
2 retrieving ads using the ad request retrieves ads relevant
3 to any one of the words of the generated ad request.

1 Claim 85 (new): The method of claim 7 wherein the act of
2 retrieving ads using the ad request retrieves ads relevant
3 to any one of the words of the generated ad request.

1 Claim 86 (new): The method of claim 31 wherein the act of
2 retrieving items using the item request retrieves items
3 relevant to any one of the words of the generated item
4 request.